

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to FIGS. 1(a) – (c). This sheet, which include FIGS. 1(a) – (c), replaces the original sheet including FIGS. 1(a) – (c). In FIGS. 1(a) – (c), previously omitted descriptive labels have been added.

## **REMARKS**

### **Figures**

In amended FIGS. 1(a) – (c), the previously omitted descriptive labels have been added.

### **Summary**

Claims 1-4 and 6-48 stand in this application. Claim 5 has been canceled without prejudice. Claims 1, 6 and 9 have been amended. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

### **Allowed Claims**

We would like to thank the Examiner for indicating the allowability of claims 21-27 and 42-48.

### **Allowable Claims**

We would like to thank the Examiner for indicating the allowability of claims 14, 15, 20 and 34-41 if amended to include all of the limitations of the base claims and any intervening claims. Applicant respectfully submits, however, that these claims represent patentable subject matter as currently listed based on the amendments and/or remarks given for the independent claims as discussed in detail below. Applicant would like to

respectfully reserve the right, however, to amend the allowable claims into independent form during further prosecution if warranted.

**35 U.S.C. § 112**

Claim 9 has been rejected under 35 U.S.C. § 112 for not particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. Applicant respectfully traverses the rejection based on the following remarks. Applicant respectfully submits that the limitation “one or more of said segments” in claim 9 has proper antecedent basis from the limitation “a plurality of segments” presently recited in claim 5. Therefore, Applicant respectfully submits that claim 9 properly depends from claim 5 and removal of this rejection is respectfully requested. Applicant further submits that the above remarks are made to overcome a § 112 rejection and are not made to overcome the cited references. Accordingly, these remarks should not be construed in a limiting manner.

**35 U.S.C. § 102**

At page 3, paragraph 3 of the Office Action claims 1-5, 11, 13, 16, 17 and 19 stand rejected under 35 U.S.C. § 102 as being anticipated by United States Patent Number (USPN) 5,757,858 to Black et al. (“Black”). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the anticipation rejection.

Although Applicant disagrees with the broad grounds of rejection set forth in the Office Action, Applicant has amended claim 1 in order to facilitate prosecution on the merits. Applicant has cancelled claim 5 and has incorporated its subject matter into

amended independent claim 1. Therefore, the anticipation rejections with respect to claim 5 will be addressed below with respect to amended independent claim 1.

Applicant respectfully submits that to anticipate a claim under 35 U.S.C. § 102, the cited reference must teach every element of the claim. *See* MPEP § 2131, for example. Applicant submits that Black fails to teach each and every element recited in claims 1-4, 11, 13, 16, 17 and 19 and thus they define over Black. For example, with respect to amended claim 1, Black fails to teach, among other things, the following language:

regulating said modified signal using a plurality of segments and a digital signal containing at least one characteristic of said two or more signals.

According to the Office Action, this language is disclosed by Black at Table III and Figure 10. Applicant respectfully disagrees.

Applicant respectfully submits that Black fails to teach, suggest or disclose the missing language. Black at Table III, arguably, teaches a table of phase values resulting from the adjustment to the THETA values for each combination of  $I_{+/-}$ ,  $Q_{+/-}$  and  $C_{I/Q}$ . Applicant respectfully submits that he has been unable to locate any teaching in Table III directed to “using a plurality of segments and a digital signal containing at least one characteristic of said two or more signals” to regulate a modified signal. Applicant respectfully submits that he has been unable to locate any mention of “a plurality of segments” in Table III.

Moreover, Black at Figure 10, arguably, teaches an I/Q phase generator including I-channel and Q-channel binary conversion circuits for determining the sign and magnitude of the I-channel and Q-channel baseband data. According to the Office

Action on page 4, the language “using a plurality of segments” is taught by Black “wherein the divider, arctan ROM or I+/-, Q+/- in Fig. 10 are segments.” Applicant respectfully disagrees. Applicant respectfully submits that the divider, arctan ROM and I+/-, Q+/- are, arguably, used to produce a 6-bit RATIO signal, store principal value phase information and adjust THETA values respectively. Applicant respectfully submits that this is different than the above recited language of claim 1. Applicant respectfully submits that even if the elements in Black could be considered to be segments, which Applicant does not admit, these elements are not used to regulate a modified signal as recited in claim 1.

Applicant respectfully submits that the above recited teaching of Black is different than the recited language of claim 1. Consequently, Black fails to disclose all the elements or features of the claimed subject matter. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 1. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 2-4, 11, 13, 16, 17 and 19, which depend from claim 1 and, therefore, contain additional features that further distinguish these claims from Black.

At page 5, paragraph 4 of the Office Action claims 1 and 10 stand rejected under 35 U.S.C. § 102 as being anticipated by United States Patent Number (USPN) 5,861,773 to Meyer (“Meyer”). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the anticipation rejection.

Applicant respectfully submits that independent claim 1 has been amended to recite features previously recited in dependent claim 5. Applicant respectfully submits that Meyer fails to disclose each and every element recited in amended independent claim

1. Furthermore, Applicant respectfully submits that claim 10 depends from claim 1 and therefore contains additional features that further distinguish this claim from Meyer.

Therefore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 1 and 10.

At page 6, paragraph 5 of the Office Action claims 1, 3-9, 12, 18, 19, 28 and 30-33 stand rejected under 35 U.S.C. § 102 as being anticipated by United States Patent Number (USPN) 6,411,655 to Holden et al. ("Holden"). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the anticipation rejection.

Applicant respectfully submits that to anticipate a claim under 35 U.S.C. § 102, the cited reference must teach every element of the claim. *See* MPEP § 2131, for example. Applicant submits that Holden fails to teach each and every element recited in claims 1, 3-9, 12, 18, 19, 28 and 30-33 and thus they define over Holden. For example, with respect to claim 28, Holden fails to teach, among other things, the following language:

an amplifier having at least two amplifying segments for receiving a modified signal derived from two or more signals that represent said input wave when combined....

According to the Office Action, this language is disclosed by Holden at Figure 1.

Applicant respectfully disagrees.

Applicant respectfully submits that Holden fails to teach, suggest or disclose the missing language. Holden at Figure 1, arguably, teaches a system for converting a stream of complex numbers into polar form using an amplitude-representative part and a phase-representative part. The Office Action states on page 6 that "the output of 11 in Fig. 1" of Holden is representative of the modified signal as recited in claim 28. The Office

Action states further on page 6 that the modified signal derived from two or more signals that represent the input wave when combined, as recited in claim 28, is derived from the combination of signals b(1) – (n) in Fig. 1 of Holden. Applicant respectfully disagrees.

Applicant respectfully submits that the output of 11 in Fig. 1 of Holden is a phase modulated carrier frequency signal. Applicant respectfully submits that this is different than the modified signal as recited in claim 28 because the claimed modulated signal is derived from two or more signals that represent the input wave when combined. Moreover, Applicant respectfully submits that the combination of signals b(1) – (n) in Holden also fails to result in a modified signal as recited in claim 28. Applicant respectfully submits that the combination of signals b(1) – (n) in Fig. 1 of Holden does not produce a signal that is representative of the input wave when combined as recited in claim 28. Therefore, Applicant respectfully submits that Holden fails to teach, suggest or disclose each and every element recited in claim 28.

Applicant respectfully submits that the above recited teaching of Holden is different than the language of claim 28. Consequently, Holden fails to disclose all the elements or features of the claimed subject matter. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 28. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 30-33, which depend from claim 28 and, therefore, contain additional features that further distinguish these claims from Holden.

Claim 1 has been amended to recite features similar to those recited in claim 28. Therefore, Applicant respectfully submits that claim 1 is not anticipated and is patentable over Holden for reasons analogous to those presented with respect to claim 28.

Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 1. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 3-9, 12, 18 and 19 that depend from claim 1, and therefore contain additional features that further distinguish these claims from Holden.

**35 U.S.C. § 103**

At page 10, paragraph 6 of the Office Action claims 2 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Holden. Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C. § 103(a) the cited references, when combined, must teach or suggest every element of the claim. See MPEP § 2143.03, for example. Applicant respectfully submits that the Office



Action has not established a *prima facie* case of obviousness because the cited reference fails to teach or suggest every element recited in claims 2 and 29. Therefore claims 2 and 29 define over Holden.

Applicant respectfully submits that if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. As recited above, Applicant respectfully submits that Holden fails to teach, suggest or disclose each and every element recited in independent claims 1 and 28. Moreover, applicant respectfully submits that claims 2 and 29 are non-obvious and patentable over Holden at least on the basis of their dependency from claims 1 and 29 respectively. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

For at least the reasons given above, claims 2 and 29 are non-obvious and represent patentable subject matter in view of the cited reference. Accordingly, removal of the obviousness rejection with respect to claims 2 and 29 is respectfully requested. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited reference. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited reference.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims

Appl. No. 10/606,080  
Response Dated October 9, 2007  
Reply to Notice of September 12, 2007

Docket No.: 17974  
Examiner: Ahn, Sam K.  
TC/A.U. 2611

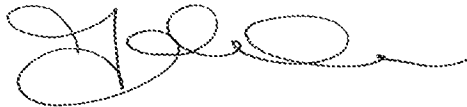
that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1-4 and 6-48 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present patent application.

Respectfully submitted,

KACVINSKY LLC

A handwritten signature in black ink, appearing to read 'John F. Kacvinsky', with a long horizontal flourish extending to the right.

---

John F. Kacvinsky, Reg. No. 40,040  
Under 37 CFR 1.34(a)

Dated: October 9, 2007

Tyco Electronics Corporation  
4550 New Linden Hill Road, Suite 140  
Wilmington, Delaware 19808-2952